

AP World History

Military Technology

April 7, 2012

1. Analyze the timeline for changes and continuities in development and use of military technology.
2. Write a thesis statement to answer the following question:

“Do developments in military technology during World War II show more changes or continuities from previous large-scale conflicts?”

- 1939 Germans developed the assault rifle but it was not widely adopted until after World War II because it lacked the power of standard rifles
- 1940 Soviets introduced Katyusha multiple rocket launchers mounted on trucks
- 1941 Plutonium first produced in secret at UC Berkeley for potential weapon
- 1942 US Manhattan Project began in order to develop the first atomic bomb
- 1942 The anti-tank rocket, or bazooka, invented for use by the US army. The grenade warhead was fit with a rocket motor, and it was fired from a simple tube launcher
- 1942 Aircraft carriers became the major offensive arm used by the US Navy
- 1942 Acoustical homing torpedoes developed by German military
- 1943 First use of air-launched, radio command-guided anti-ship missiles by the US Navy
- 1944 First V-1 flying bomb used by Germany against Great Britain
- 1944 V-2 rockets used by Germany
- 1944 First German military jet, the Messerschmidt, used in battle
- 1945 Atom bombs developed and used by the US

Directions

Annotate the following timeline by identifying the continuities in military technology and marking the key new inventions that show major changes.

Write a thesis statement to answer the following question:

“Analyze the continuities and changes in military technology from 1750 to 1945.”

Timeline of Military Technology

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- Early 18th century. The wheel replaced the tiller on ships
- 1742 Ballistic pendulum was invented. This gave gunners the ability to measure the power of a given quantity of gunpowder
- 1750 Some foundries could cast cannon barrels as solid pieces and bore them out. This made cannons more accurate
- 1800 British developed cylinder-burned charcoal
- 1802 First practical paddle-steamer ship was built
- 1803 First use of the exploding canister shell invented by Henry Shrapnel
- 1820 First iron steam ship, the Aaron Manby, was built
- 1821 Henri-Joseph Paixhans invented the explosive shell (equipped w/ a fuse which ignited automatically when fired. The shell would then lodge itself in the target before exploding a moment later)
- 1829 A practical ship's screw was invented which would replace the paddle on ships. Sails on ships were still in use
- 1846 Guncotton, an explosive substance, was invented
- 1849 Minie ball (cone-shaped bullet) invented by Claude E. Minie
- 1850 A primitive submarine was built by Wilhelm Bauer
- Mid-19th century Development of methods for measuring pressure inside cannons allowed for the building of more effective cannons
- 1853 Britain began using the Enfield rifle
- 1853-1856 During the Crimean War, the Russians were the first to use mines as a strategic weapon
- 1859 French launched the *Gloire*, the first sea-going armored ship
- 1862 The Gatling gun was patented. Two ironclad ships, the Monitor and the Merrimack, fought to a draw in the US Civil War
- 1860s Heavy-rifled cannon made of high-quality cast iron was used extensively in the US Civil War. The early modern fortress based on the sunken profile and bastioned trace was made obsolete
- 1867 Dynamite was invented by Alfred Nobel
- 1875 Smokeless gunpowder, ballistite, was invented by Alfred Nobel
- 1880s Steam-powered torpedo boats were used for harbor defense. These evolved into the modern destroyer. Rigging and sails were discarded for all except training ships
- Late 19th century Brass cartridges for breech-loading cannons were developed
- 1891 During the Chilean Revolutionary War, a self-propelled torpedo sank an armored warship for the first time

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- 1896 Armed and armored car was designed by E. J. Pennington
- 1900 First rigid dirigible, the zeppelin, was built by Ferdinand von Zeppelin
- 1903 Powered flight was effectively demonstrated by Wilbur and Orville Wright
- 1904 Radar was patented by Christian Hulsmeyer
- 1904-1905 Wireless communications were used in war for the first time (Russo-Japanese War)
- 1914 Submarines began to have a heavy impact on sea warfare
- 1915 British began using the depth charge as an anti-submarine weapon. Sonar was developed by Paul Langevin. Fokker warplane became the first to have its machine guns synchronized with its propeller. Trench mortars were first used
- WWI Anti-aircraft guns were introduced. Aircraft carriers were developed at the end of World War I for scouting and air defense. Flame throwers were developed
- 1916 Phosgene gas was developed. Mark I tanks were first used in action
- 1926 First liquid-propellant rocket was launched
- 1927 Italy accomplished the first instance of planned military parachuting after adopting escape parachutes for the task
- 1930s First practical helicopters were developed by Igor Sikorsky
- 1931 Deuterium was discovered
- 1935 Robert Alexander Watson-Watt developed a practical aircraft-detecting radar
- WWII Soviets introduced rocket artillery. Germans developed the assault rifle but it was not widely adopted until after World War II because it lacked the power of standard rifles
- 1940 Plutonium was discovered
- 1942 US Manhattan Project began in order to develop the first atomic bomb. The antitank rocket, or bazooka, was invented. Before the bazooka, only anti-tank grenades or “elephant guns” would damage well-armored tanks, but even these performed poorly. Aircraft carriers became the major offensive arm of the Navy
- 1943 First use of air-launched, radio command-guided anti-ship missiles
- 1944 First V-1 flying bomb was used by Germany against the Great Britain. V-2 rockets were used by Germany. First German military jet, the Messerschmitt, was used in battle
- 1945 Atom bomb was developed and used
- Late WWII Acoustical homing torpedoes were developed

Source: <http://www.warscholar.com/Year/TechnologyOutline.html>